KOYFMAN, B. YE.; FINKEL'SHTEYN, I. D.

Kaolin

Some technical properties of products from fractionated kaolin. Stek. i ker. 9 no. 8 August 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

KOYFMAN, D.B.

Case of coma hepaticum treated with oxygen. Klin.med. 37 no.1:154 Ja '59. (MIRA 12:3)

1. Iz infektsionnogo otdeleniya (zav. D.B Koyfman) Putil'skoy rayonnoy bol'nitsy Chernovitskoy oblasti (glavnyy vrach I.V. Dema).
(COMA) (OXYGEN—THERAPEUTIC USE)

KOYFMAN, D.I., gornyy inzhener.

Experience in using blasting charges of increased diameter. Ugol' 30 no.2:41-42 F '55. (MLRA 8:4)
(Blasting)

KOYFMAN, D.I., gorny inzhener; OBUKHOV, N.N., gornyy inzhener.

Industrial testing of standardized cutting parts in coal cutters.
Ugol' 30 no.11:26-28 N '55. (MLRA 9:2)

1.Vsesoyuznyy ugol'nyy institut.
(Coal mining machinery)

KOYFMAN, I.

Simplify the accounting for products in the stock room and in production. Obshchestv.pit. no.1:49-52 Ja '63. (MIRA 16:4)
(Restaurants, lunchrooms, etc.—Accounting)

KOYFMAN, I.A.

Automatic installation for the control of the dipatcher's work at a first aid station. Zdrav. Ros. Feder. 7 no.10:22-23 0'63. (MIRA 16:11)

1. Iz Ryazanskoy stantsii skoroy meditsinskoy pomoshchi.

KOYFMAN, I.A.

Work of a first aid station in the prevention of industrial accidents.
Zdrav. Ros. Feder. 5 no. 4:35-36 Ap '61. (MIRA 14:4)

1. Iz Ryazanskoy stantsii skoroy meditsinskoy pomoshchi.
(INDUSTRIAL SAFETY)

KOYFMAN, I.A.

Technological flow chart for refining raw sugar cane at the Tokmak Sugar Factory. Sakh.prom. 35 no.6:29 Je '61. (MIRA 14:6)

1. Tokmakskiy sakharnyy zavod.
(Tokmak—Sugar cane)

KOYFMAN, I. S.

USSR /Chemical Technology. Chemical Products and Their Application I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31497

Author : Matveyev M.A., Koyfman I.S., Grechanik L.A.

Title : Vibratory Comminution of Sand and Its Use in the Making of Borosilicate Glass

Orig Pub: Steklo i keramika, 1956, No 11, 3-9.

Abstract: Grinding of sand (S) was effected in M-10 and M-200 vibratory mills. Degree of dispersion of S was evaluated on the basis of screen analysis data and specific surface values. It was found that most effective is grinding of S during the first 1,5 hours, when a specific surface of 3300 cm^2/g is attained with a residue on the

Card 1/4

USSR /Chemical Technology. Chemical Products and Their Application I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31497

screen of 10000 apertures/cm^2 (5%). Comparative study of vibratory grinding using different grinding bodies has shown that greatest output capacity of the mill is attained with steel balls, which are most wear-resistant but cause contamination of the S with metallic Fe. Milling with porcelain and glass balls decreases the output by 2-3 times. Use was also made of glass balls manufactured at the same plant; cost of the balls expended in vibratory comminution of 1 ton of sand is 2 times less than that of porcelain balls. For glass in which a Fe_2O_3 content of more than 0.1% is permissible, milling of S

Card 2/4

can be carried out in a housing without an internal rubber lining, which is of great practical importance since the life of the lining does not exceed 150 hours of operation. To reduce dust formation and improve mixing of the batch it is advantageous to humidify the sand 5 minutes prior to termination of the mixing. Early moistening of the S impairs the degree of comminution. Output of a continuous operation unit, with a feed of the aero-mixture under the milling bodies, is 1.7 times higher than that of an intermittent operation mill, yielding a product of the same degree of dispersion. Most

USSR /Chemical Technology. Chemical Products and Their Application

I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31497

advantageous is a grinding of S to a specific surface of 2000 cm^2/g, which is attained in a M-200 mill within 1 hour.

Card 4/4

KOYFMAN, K.M.

Result of Sanational dietotherapy in peptic ulcer patients after gastrectomy. Zhur.ob.biol. 20 no.2:24-28 Mr-Ap '59. (MIRA 12:5)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta kurortologii i sanatoriya No.7 Odesskogo territorial'nogo kurortnogo upravleniya.

(GASTRECTOMY, in var. dis.
peptic ulcer, postop. dietother. (Rus))
(DIETS, in var. dis.
peptic ulcer, postgastrectomy (Rus))

KOLFMAN, L. M.

3 4

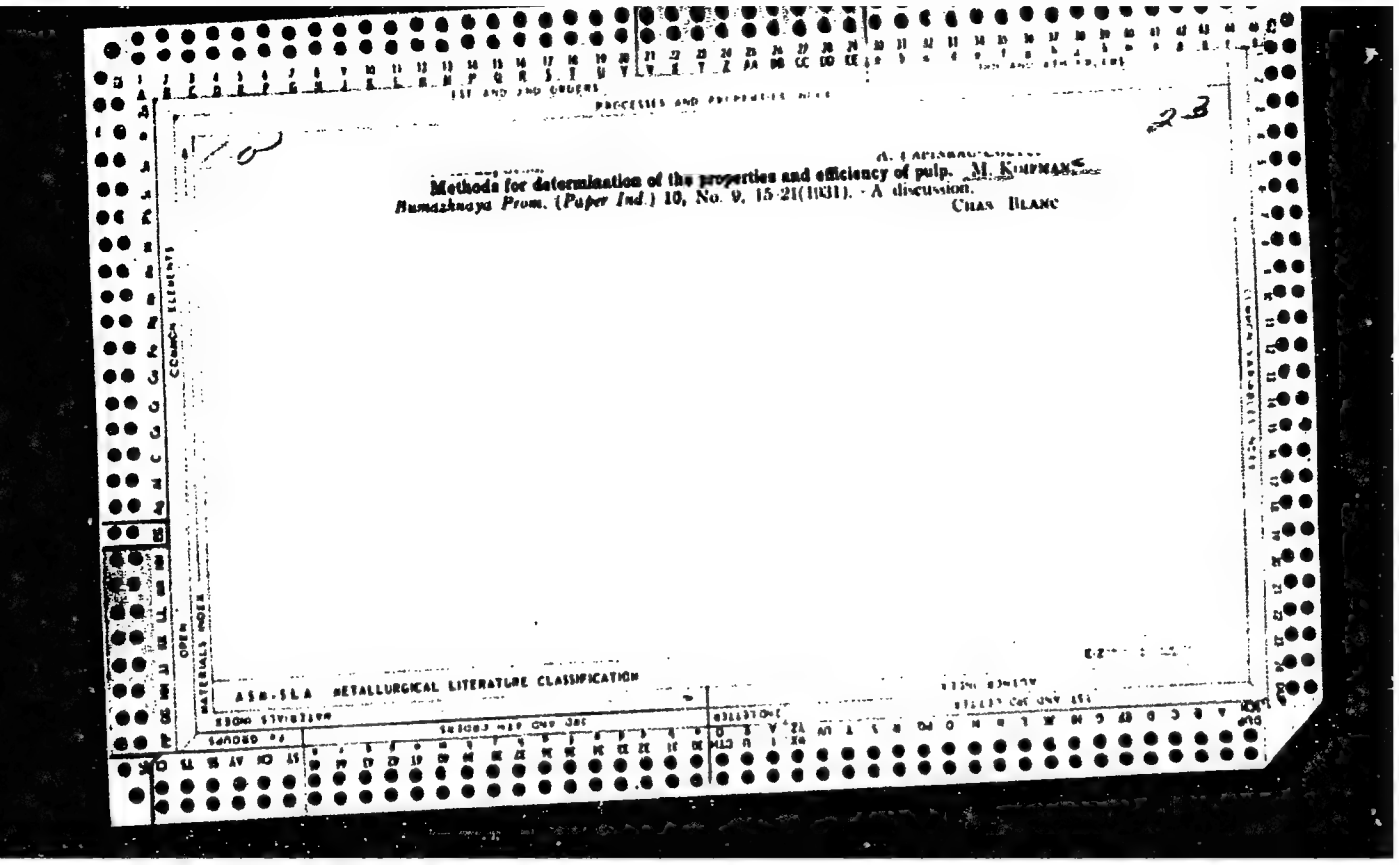
J. Methyl bromide hydrate. L. M. Kolfman, S. I. Yavorskii, and V. Ya. Plotnikov. *Zhur. Prikład. Khim.* 6, 655–7(1933).—Shaking MeBr with H_2O at 0–4.5° yields MeBr hydrate, plates, having approx. the compn. $MeBr.13H_2O$. It decomp. at 10–15° and shows the following vapor pressures: at 5°, 7 mm. H_2O, 363 mm. hydrate; at 10°, 9 and 681; at 13°, 11 and 969; at 15°, 13 and 1117; at 18°, 15 and 1245 mm., resp. The ternary point of coexistence of the hydrate, MeBr liquid and MeBr vapor is 14° at 1060 mm. pressure.

G. M. Kosolapoff

MF

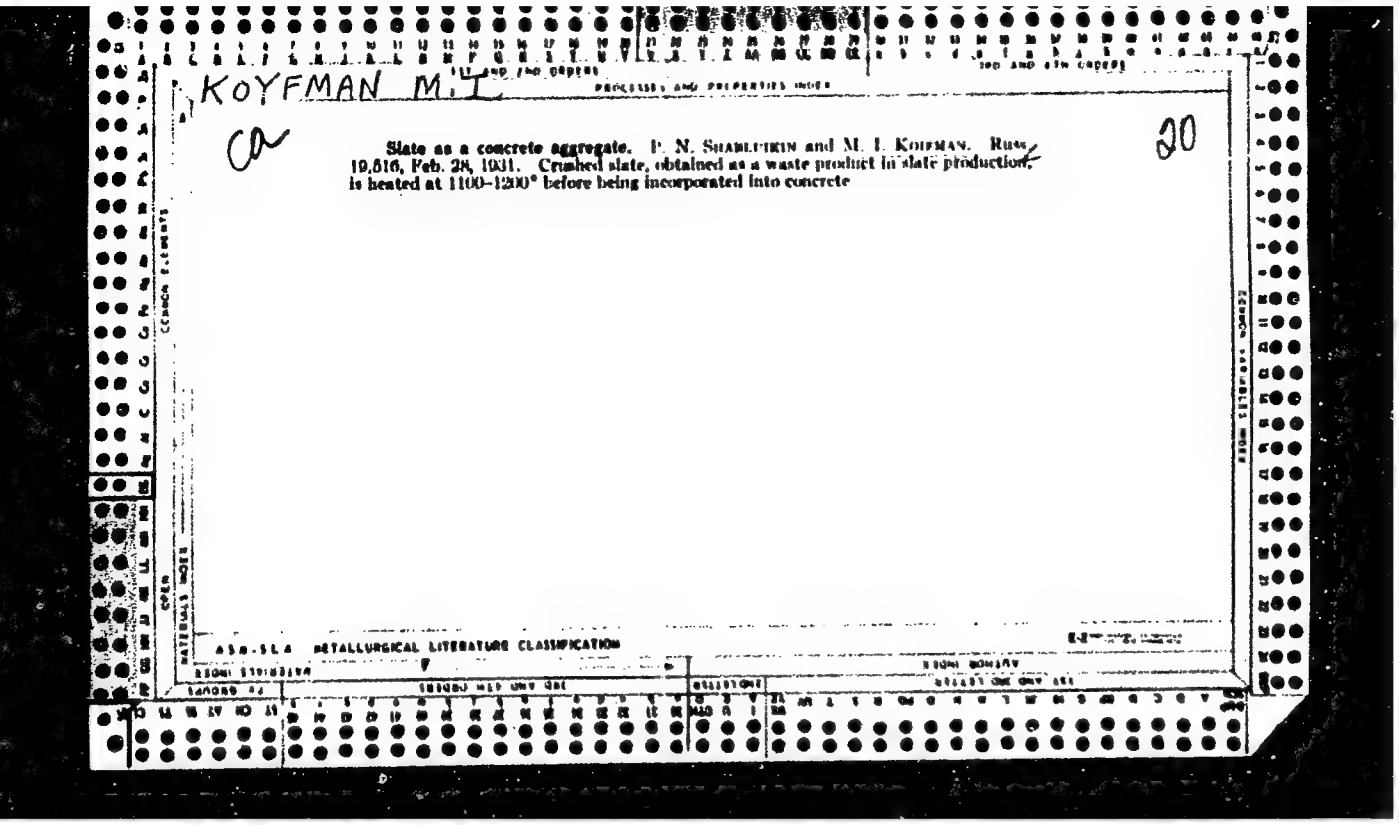
KOYFMAN, M.D.

Semiquantitative determination of indium and thallium in sulfide and silicate ores and rocks with a sensitivity of 1.10-4-3.10-4. Trudy Alt.GMNII AN Kazakh.SSR 12:157-159 '62. (MIRA 15:8)
(Indium--Spectrum) (Thallium--Spectrum) (Ore deposits)



Methods for determination of the properties and efficiency of pulp. M. KUPRIANOV.
Bumazhnaya Prom. (*Paper Ind.*) 10, No. 9, 15-21(1931). - A discussion.
CHAS. BLANC

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



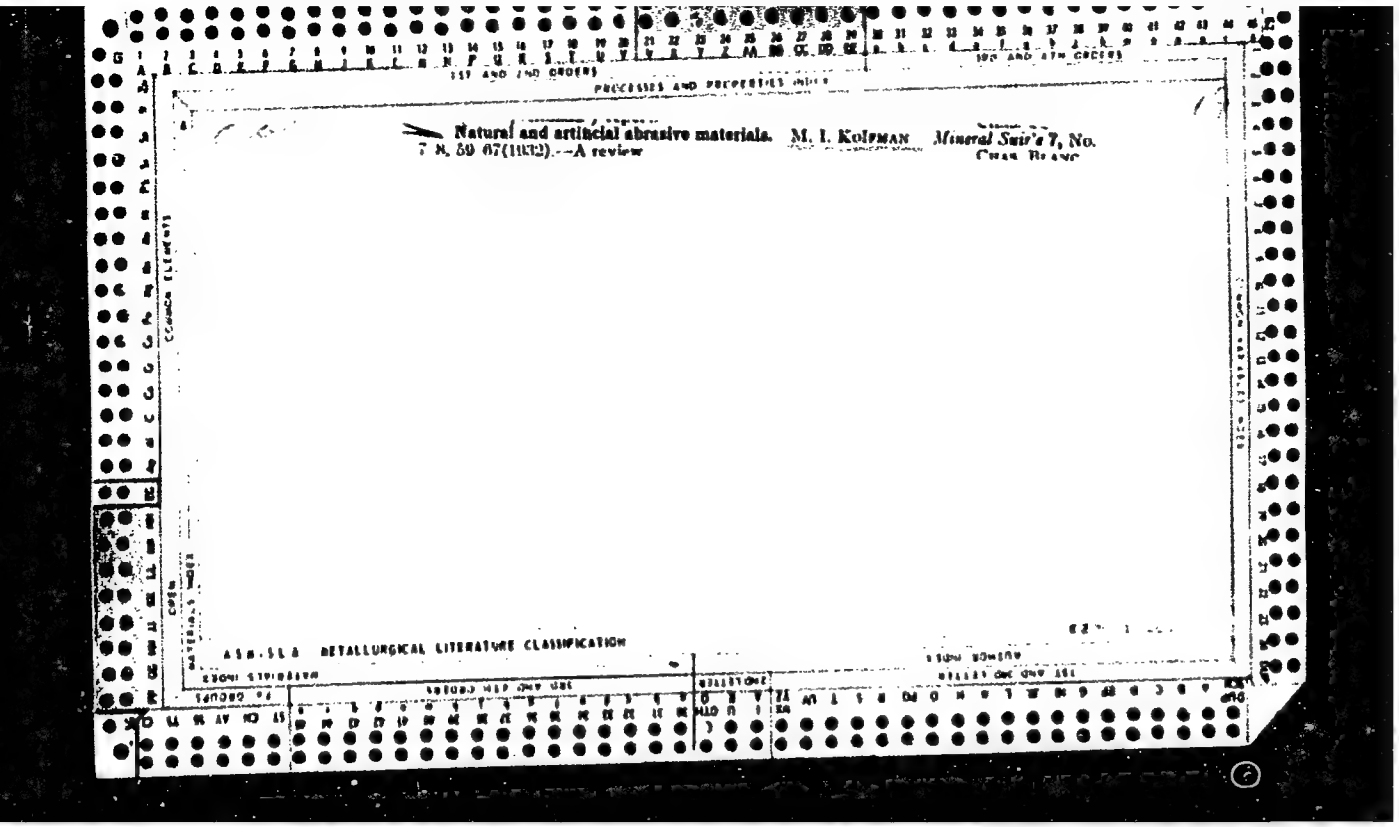
KOYFMAN M.I

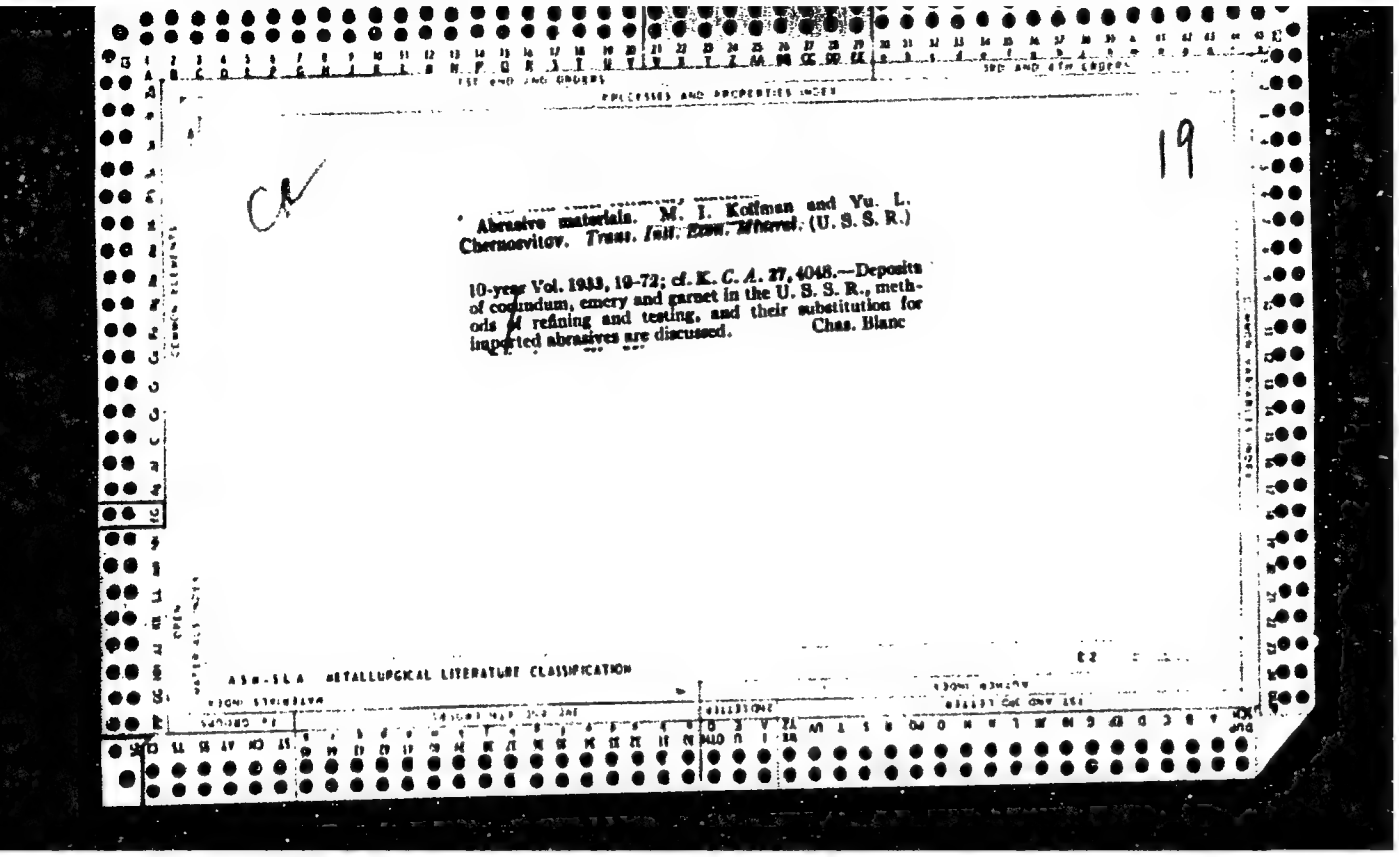
CA

Slate as a concrete aggregate. P. N. Shablygin and M. I. Koifman. Russ. 19,516, Feb. 28, 1931. Crushed slate, obtained as a waste product in slate production, is heated at 1100–1200° before being incorporated into concrete

20

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION





19

Abrasive materials. M. I. Kolfman and Yu. L. Chernosvitov. *Trans. Inst. Econ. Mineral.* (U. S. S. R.) 10-year Vol. 1933, 19–72; cf. K. *C. A.* 27, 4048.—Deposits of corundum, emery and garnet in the U. S. S. R., methods of refining and testing, and their substitution for imported abrasives are discussed. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

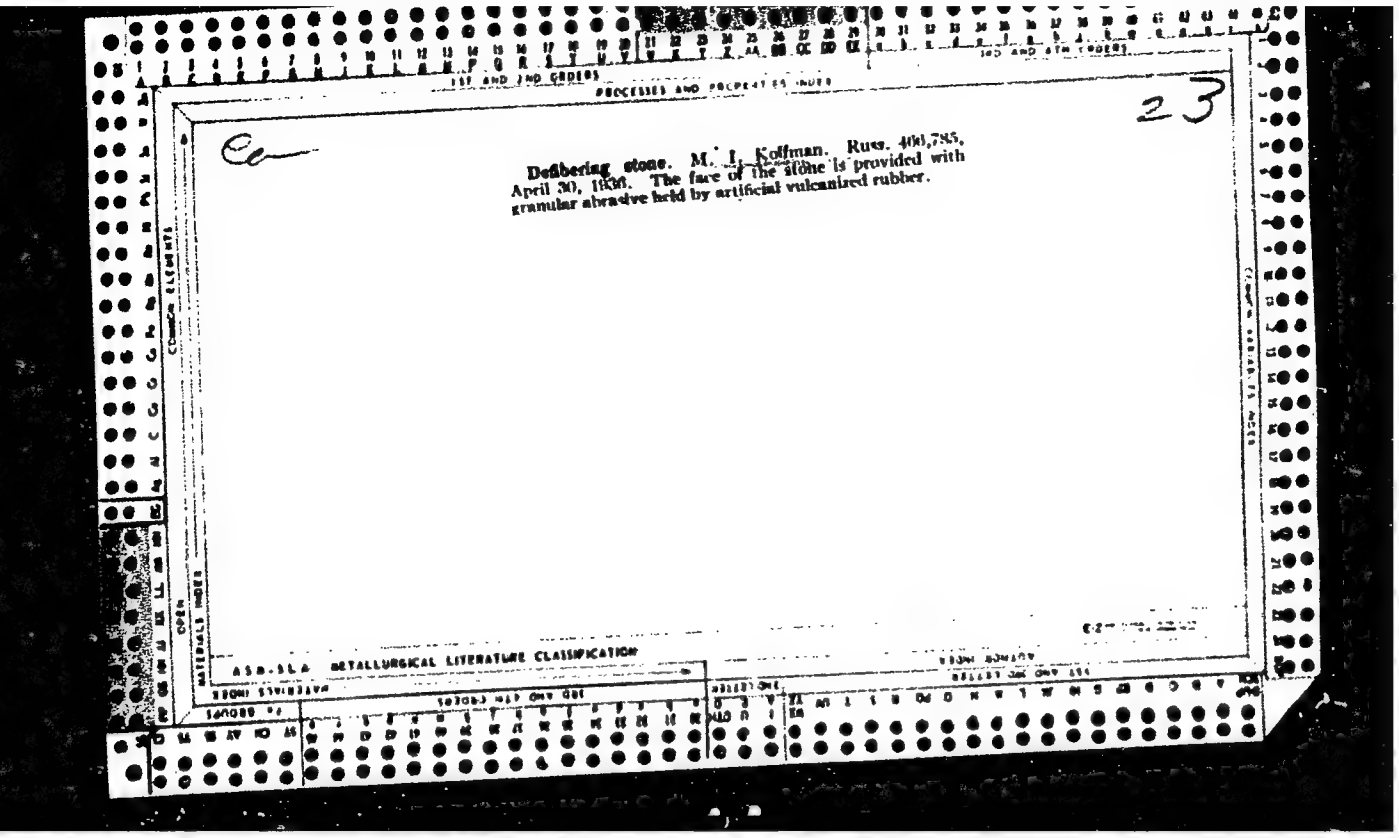
1ST AND 2ND ORDERS

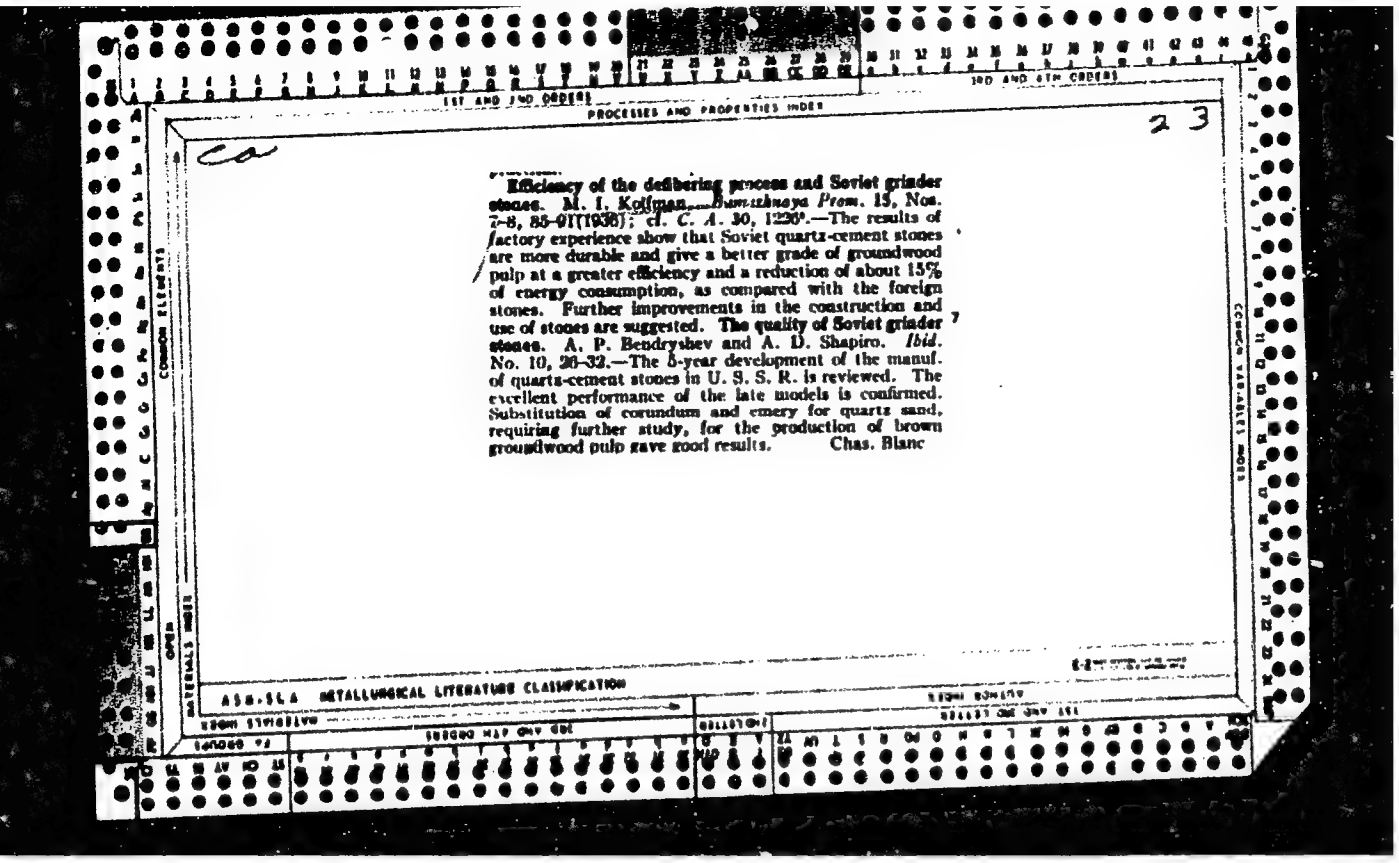
PROCESSES AND PROPERTIES INDEX

Method of analysis and composition of pumiceous defibering stones. M. I. Kulman. *Bumazhnaya Prom.* 14, No. 9, 28-35(1935).—The compn. of several grades of Norwegian defibering stones was detd. by a method of mech. decompn. and microscopic analysis. The working top layer is composed of ground corundum-pumice 60 1, portland cement 16-20, Na_2SiO_3 10.6-14.5 and org. matter 0.2-0.4%. The loss in wt. on ignition is about 8%. The core contains feldspathic sand 56, sawdust 4-6, portland cement 18-23 and Na_2SiO_3 8-14%. The loss in wt. is about 7%.

Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION





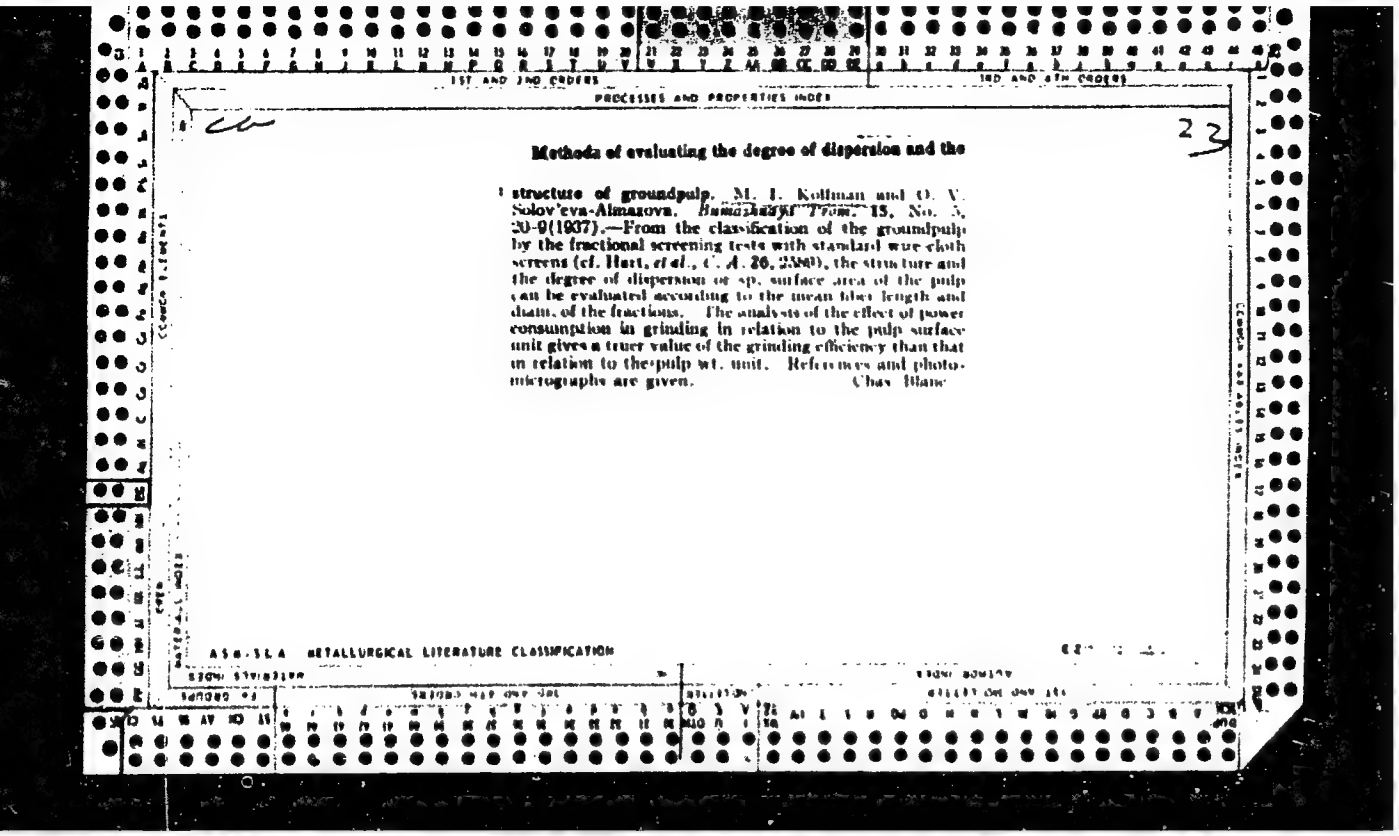
PROCESSES AND PROPERTIES INDEX

23

Ca

Efficiency of the delibering process and Soviet grinder stones. M. I. Kolfman. *Bumazhnaya Prom.* 15, Nos. 7–8, 85–91(1936); cf. *C. A.* 30, 1220⁹.—The results of factory experience show that Soviet quartz-cement stones are more durable and give a better grade of groundwood pulp at a greater efficiency and a reduction of about 15% of energy consumption, as compared with the foreign stones. Further improvements in the construction and use of stones are suggested. **The quality of Soviet grinder stones.** A. P. Bendryshev and A. D. Shapiro. *Ibid.* No. 10, 26–32.—The 5-year development of the manuf. of quartz-cement stones in U. S. S. R. is reviewed. The excellent performance of the late models is confirmed. Substitution of corundum and emery for quartz sand, requiring further study, for the production of brown groundwood pulp gave good results. Chas. Blanc

A58-56A METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

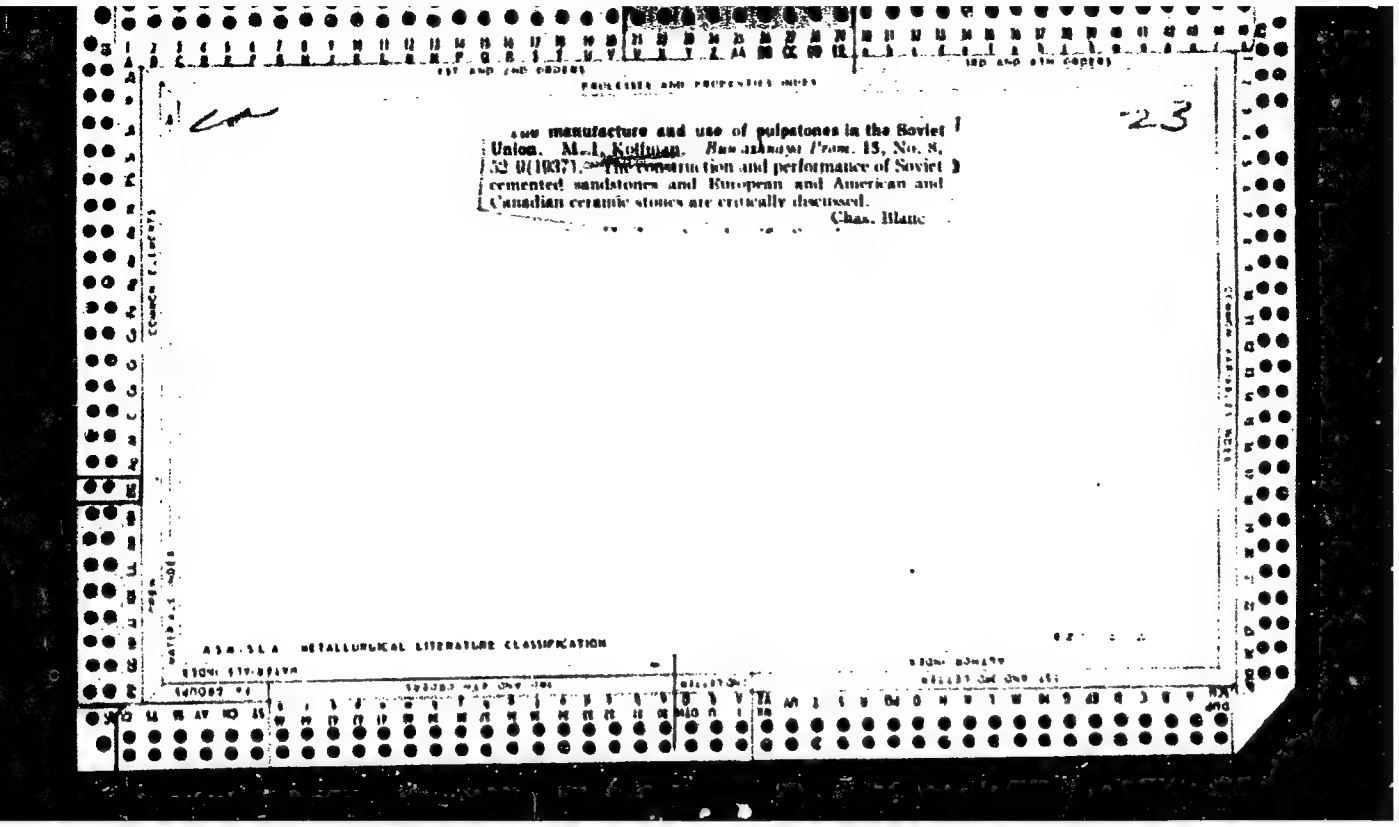
1ST AND 2ND CODERS

3RD AND 4TH CODERS

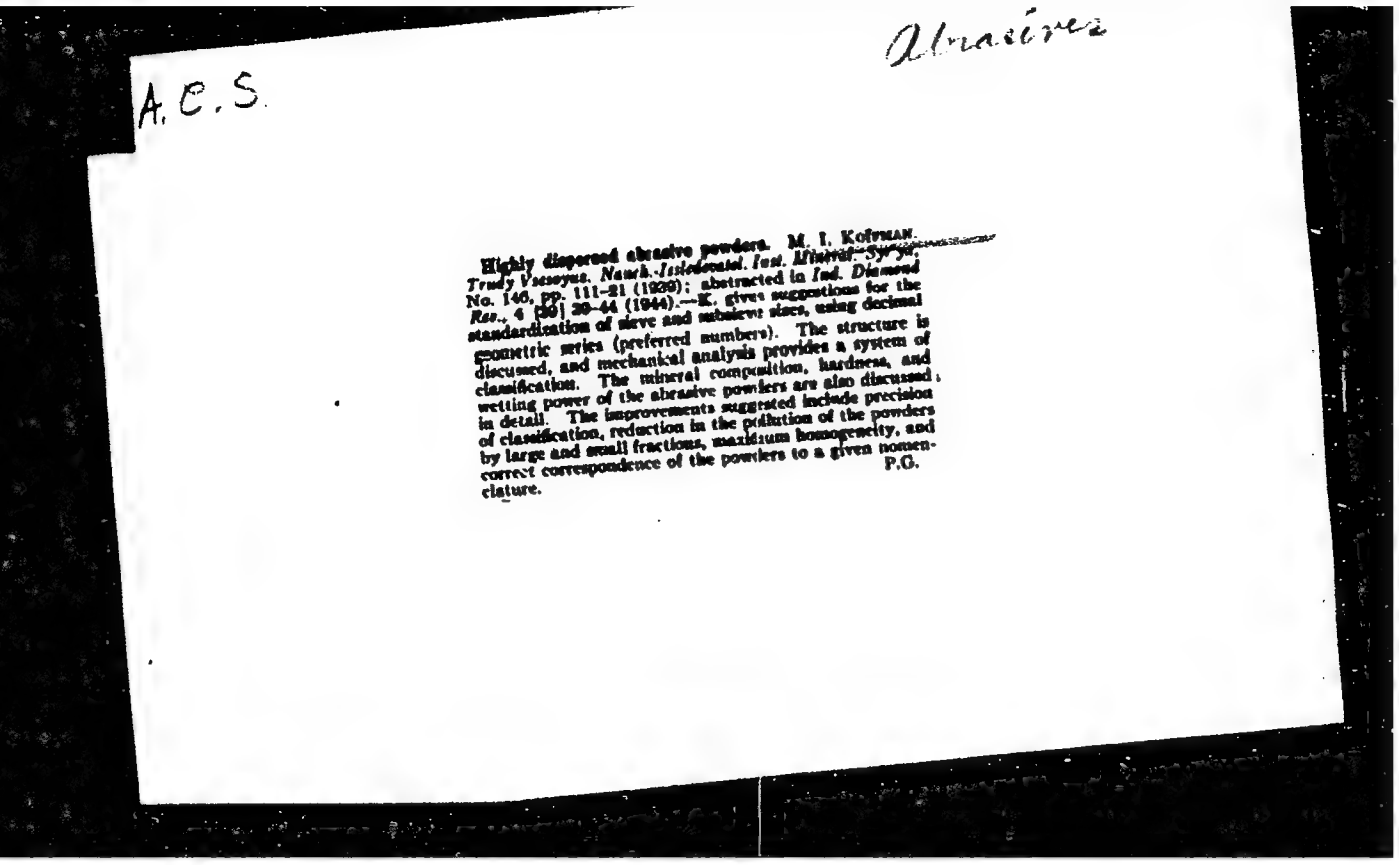
23

Methods of evaluating the degree of dispersion and the structure of groundpulp. M. I. Kolfman and O. V. Solov'eva-Almazova. *Bumazhnaya Prom.* 15, No. 3, 20-9(1937).—From the classification of the groundpulp by the fractional screening tests with standard wire cloth screens (cf. Hart, *et al.*, C. A. 26, 2380), the structure and the degree of dispersion or sp. surface area of the pulp can be evaluated according to the mean fiber length and diam. of the fractions. The analysis of the effect of power consumption in grinding in relation to the pulp surface unit gives a truer value of the grinding efficiency than that in relation to the pulp wt. unit. References and photomicrographs are given. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



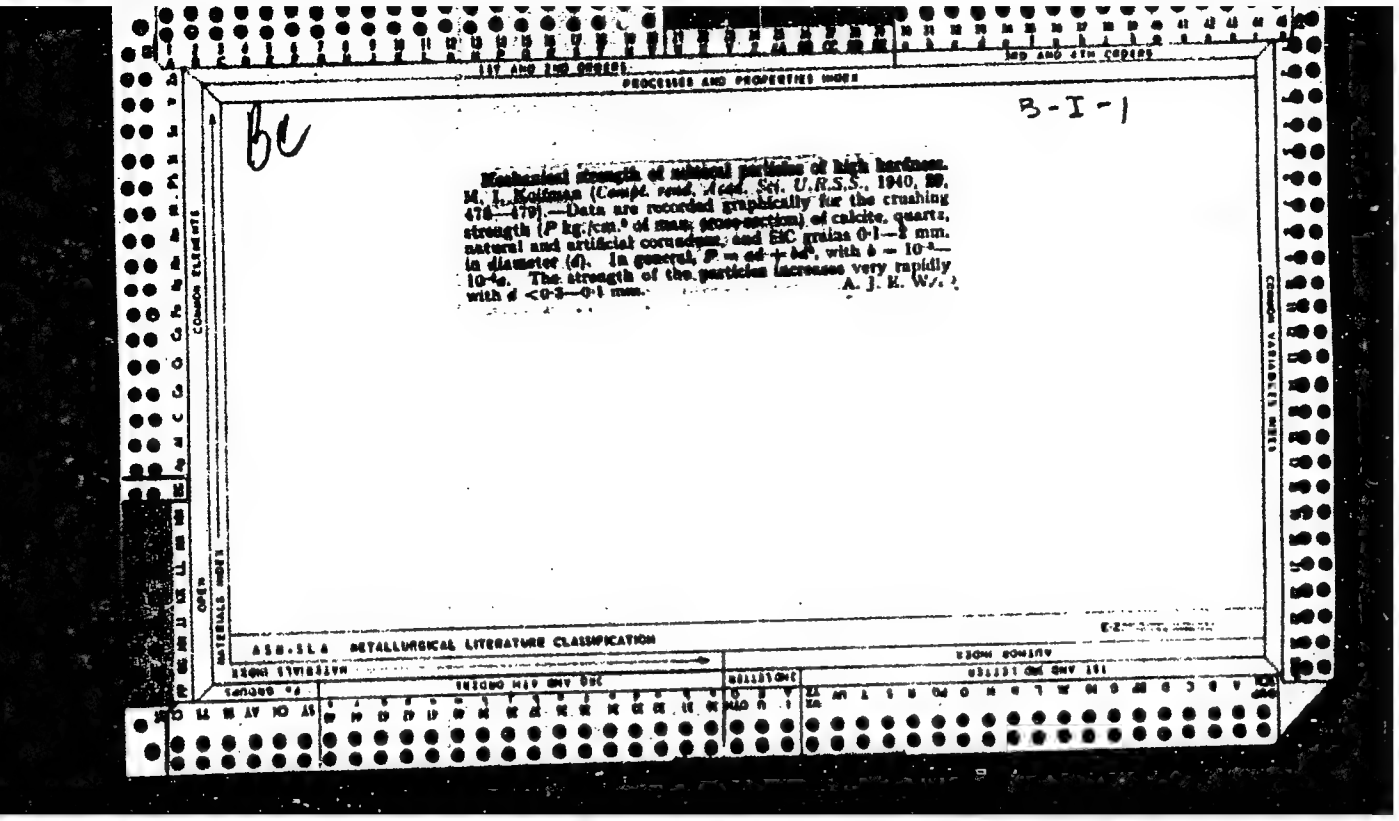
...manufacture and use of pulpstones in the Soviet Union. M. I. Koltman. *Bumazhnaya Prom.* 15, No. 8, 32-9(1937). The construction and performance of Soviet cemented sandstones and European and American and Canadian ceramic stones are critically discussed.
Chas. Blanc



A.C.S.

Abrasives

Highly dispersed abrasive powders. M. I. Kofman. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Mineral. Syr'ya*, No. 146, pp. 111–21 (1939); abstracted in *Ind. Diamond Rev.*, 4 [39] 39–44 (1944).—K. gives suggestions for the standardization of sieve and subsieve sizes, using decimal geometric series (preferred numbers). The structure is discussed, and mechanical analysis provides a system of classification. The mineral composition, hardness, and wetting power of the abrasive powders are also discussed in detail. The improvements suggested include precision of classification, reduction in the pollution of the powders by large and small fractions, maximum homogeneity, and correct correspondence of the powders to a given nomenclature. P.G.



bc

B-I-1

Mechanical strength of mineral particles of high hardness. M. I. Koifman (*Compt. rend. Acad. Sci. U.R.S.S.*, 1940, **29**, 476—479).—Data are recorded graphically for the crushing strength (P kg./cm.^{2} of mean cross-section) of calcite, quartz, natural and artificial corundum, and SiC grains 0·1—2 mm. in diameter (d). In general, $P = ad^{-1} + bd^2$, with $b = 10^{-2}$—$10^{-4}a$. The strength of the particles increases very rapidly with d <0·3—0·1 mm. A. J. E. W.

KOLEMAN, M. I.

New definition of hardness. M. I. Koleman. *Compt. Rend. Acad. Sci. U.R.S.S.*, 30, 830–31 (1941); abstracted in *Chem. Zentr.*, 1943, I [6] 604.—K. defines hardness as a resistance of the surface layers of a body to local injuries under the effect of mechanical forces concentrated in a restricted area of the body. This new definition establishes a difference between hardness and mechanical strength. While the latter characterizes the resistance of the whole body to complete destruction or general deformation under the effect of exterior mechanical forces, hardness should be considered only as the resistance of the surface layers of a body against local forces that are not large enough for complete fracture but only for local injuries in a certain area. Hardness is a complex conception and can be both static and dynamic: it characterizes the resistance to normal or combined normal-tangential stresses. M.Ha.

KOYFMAN, M.I.

Field methods of evaluating the grade of corundum and emery
Sov.geol. no.21:87-101 '47. (MLRA 8:8)
(Corundum) (Emery)

KOYFMAN, M. I.

"Rules Governing the Rock Disintegration by Means of Rotating and Percussion Drilling."

report presented at the Conference in the Mining Inst. AS USSR on Problems of Rock Disintegration, 20-22 May 1958.
(Vest. AN SSSR, No. 8, 1958, pp. 130-132)

KOYFMAN, M.I.

New bits used in core drilling. Biul.tekh.-ekon.inform. no.11:5-6 '58. (MIRA 11:12)

(Boring machinery)

KOYFMAN, Mikhail Il'ich; IL'NITSKAYA, Yelena Ivanovna; KARPOV, Viktor Ivanovich; PROTOD'YAKONOV, M.M., prof., doktor tekhn. nauk, otv. red.; TEDER, R.I., otv. red.

[Resistance of rocks in a volume stressed state; some problems in the methodology of research] Prochnost' gornykh porod v ob"emnom napriazhennom sostoianii; nekotorye voprosy metodiki issledovanii. Moskva, Nauka, 1964. 32 p. (MIRA 17:11)

PROTOD'YAKONOV, Mikhail Mikhaylovich; KOYFMAN, Mikhail Il'ich; CHIRKOV, Sergey Yefimovich; KUNTYSH, Mikhail Filimonovich; TEDER, Rolland Iogannesovich

[Strength certificate of rocks and methods of determining it] Pasporta prochnosti gornykh porod i metody ikh opredeleniia. [By] M.M.Protod'iakonov i dr. Moskva, Nauka, 1964. 76 p. (MIRA 18:1)

1. Moscow. Institut gornogo dela im. A.A.Skochinskogo.

POPIL'SKIY, R. a.; PANKRATOV, Yu. F.; KOYFMAN, N. M.

Formation of a nonporous structure in polycrystalline corundum. Dokl. AN SSSR 155 no. 2:326-329 Mr '64. (MIRA 17:5)

1. Nauchno-issledovatel'skiy institut elektrovakuumnogo stekla. Predstavleno akademikom S. A. Vekshinskim.

KOYFMAN, S. I.; IZRAYLET, L. I.; KOROTKOV, V. M.

"The Use of Phytoncides of Garlic for Prophylaxis and Treatment of Grippe and Severe Catarrhs of the Upper Respiratory Tracts," Voyenno-Med. Zhur., No. 11, p. 62, 1955.

KOYFMAN, S.I.

HELMINTHS

"A Case of Group Trichinosis", by S.I. Koyfman, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 2, March-April 1957, pp 159-160.

The author describes five cases of trichinosis which occured after eating bacon sent from Zakarpat'ye.

In spite of the relative rarity of this disease it is suggested to call the attention of physicians to the necessity of increasing the sanitary control of slaughtered animals.

In case of an increasing eosinophilia in patients, the author recommends to have them examined for trichinosis.

Card 1/1

MARMOR, L.; KOYFMAN, S.; CHAPLYGINA, E.

Appeal of the collective of medical personnel of the First Consolidated Hospital of Bel'tsy to all the medical personnel of the republic. Zdravookhranenie 3 no.1:3-4 Ja-F '60. (MIRA 13:6)

1. Glavnyy vrach 1-y ob"yedinennoy bol'nitsy goroda Bel'tsy (for Marmor). 2. Sekretar' parinoy organizatsii (for Koyfman). 3. Predsedatel' mestnogo komiteta (for Chaplygina).
(BELTSY--PUBLIC HEALTH)

KOYFMAN, S. I. Colonel of the Medical Service--Clinical Aspects and Treatment of Influenza, 1959. and REMOROV, V.N.

Voyenno-Meditsinskiy Zhurnal, No. 11, 1961, pp. 78-79.

KOYFMAN, S.I., polkovnik meditsinskoy sluzhby; REMOROV, V.N., podpolkovnik meditsinskoy sluzhby

Clinical aspects and treatment of influenza in 1959. Voen.-med. zhur. no.11:72 N '61. (MIRA 15:6)

(INFLUENZA)

KOTIGER, Ya.S.; KOYFMAN, S.S.

Rare case of anomalous development of the liver. Arkh. anat., gist. i embr. 42 no.3:70-71 Mr '62. (MIRA 15:5)

1. Khirurgicheskoye otdeleniye (zav. - Ya.S.Kotiger) i rentgenologicheskoye otdeleniye (zav. - S.S.Koyfman) 1-y ob"yedinennoy bol'nitsy gor. Bel'tsy Moldavskoy SSR. Adres avtorov: Bel'tsy, Moldavsk SSR, 1-ya ob"yedinennaya bol'nitsa Khirurgicheskoye otdeleniye.

(LIVER--ABNORMITIES AND DEFORMITIES)

KOYFMAN, U.G., inzhener; PSHENICHNYY, V.D., inzhener.

Camber and stress in welded diaphragms with blade of small width. Energomashinostroenie 3 no.9:30-34 S '57. (MIRA 10:10)
(Turbines)

KOYFMAN, U.G., inzh.

New stand for diaphragm testing. Energomashinostroenie 4 no.12:23-25 D '58. (MIRA 11:12)
(Steam turbines--Equipment and supplies)

32559
S/198/61/007/006/001/008
D299/D301

10 6000 1327

AUTHORS: Savin, H. M. and Koyfman, Yu. I. (Kyyiv-L'viv)

TITLE: Plane problems in nonlinear elasticity theory

PERIODICAL: Prykladna mekhanika, v. 7, no. 6, 1961, 590-599

TEXT: M. I. Muskhelishvili's methods are used for solving several plane problems of nonlinear elasticity theory (Ref. 1: Nekotoryye osnovnyye zadachi matematicheskoy teorii uprugosti (Some Basic Problems in Mathematical Elasticity Theory), Izd-vo AS SSSR, 1954). Basic relationships for second approximation: The system of equations of plane nonlinear theory is integrated by the method of series expansion in the parameter ε. In the second approximation, the stress-tensor components are

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$$\overline{\tau^{12}} = 4^0\ e\left\{\frac{\partial}{\partial\eta}\left(\frac{\partial U^{(1)}}{\partial\bar{z}}\right)+\varepsilon\left[\frac{\partial}{\partial\eta}\left(\frac{\partial U^{(2)}}{\partial\bar{z}}\right)-\frac{\partial D^{(1)}}{\partial\eta}\frac{\partial}{\partial\eta}\left(\frac{\partial U^{(1)}}{\partial\bar{z}}\right)-\right.\right.$$
$$\left.\left.-\frac{\partial\bar{D}^{(1)}}{\partial\eta}\frac{\partial}{\partial\bar{\eta}}\left(\frac{\partial U^{(1)}}{\partial\bar{z}}\right)\right]\right\};$$
$$\overline{\tau^{22}} = -4^0He\left\{\frac{\partial}{\partial\bar{\eta}}\left(\frac{\partial U^{(1)}}{\partial\bar{z}}\right)+\varepsilon\left[\frac{\partial}{\partial\bar{\eta}}\left(\frac{\partial U^{(2)}}{\partial\bar{z}}\right)-\frac{\partial D^{(1)}}{\partial\eta}\frac{\partial}{\partial\eta}\left(\frac{\partial U^{(1)}}{\partial\bar{z}}\right)-\right.\right.$$
$$\left.\left.-\frac{\partial\bar{D}^{(1)}}{\partial\bar{\eta}}\frac{\partial}{\partial\bar{\eta}}\left(\frac{\partial U^{(1)}}{\partial\bar{z}}\right)\right]\right\}. \qquad (1.6)$$

where D = z - φ is the (complex) displacement function, U - Airy's function, ^{0}H - a constant equal to the shear modulus μ or to 2hu respectively. Second-order potential functions: It is assumed

Card 2/6

Plane problems in ...

that the multiply connected region S, occupied by the body after deformation, is bounded by several simple, closed contours $L_1, \ldots, L_{m+1}$. After computations, one obtains for the potential functions

$$\varphi^{(2)}(z) = -\frac{1}{2\pi(k+1)} \sum_{n=1}^{m} (X_n^{(2)} + iY_n^{(2)} - E_{1,n}) \ln(z - z_n + \varphi_0^{(2)}(z),$$

$$\psi^{(2)}(z) = \frac{1}{2\pi(k+1)} \sum_{n=1}^{m} [k(X_n^{(2)} - iY_n^{(2)}) + E_{2n}] \ln(z - z_n) + \psi_0^{(2)}(z) \qquad (2.11)$$

where X and Y are the components of the principal stress tensor, φ_0 and ψ_0 are functions, holomorphic in S. Principal boundary-

Card 3/6

Plane problems in ...

value problems: In contradistinction to the linear formulation, the boundary conditions in nonlinear theory can be formulated differently. First principal problem: a.) External stresses given at known contour of deformed body. B.) External stresses given at contour of undeformed body. C.) Boundary given for undeformed state, external stresses - for deformed state. Second principal problem: D.) Displacement components of points of boundary given, whose form is known in deformed state. E.) Displacement components of points of boundary given, whose form is known in undeformed state. It was found that the second-order potentials with formulations A) and B) are simultaneously determined for similar problems. The elastic equilibrium of infinite plate is then discussed, having a circular hole filled by a ring of different material. For the boundary conditions and the compatibilty equations one obtains

$$\left.\frac{\partial U^{(1)}}{\partial z}\right|_{L_1} = f^{(1)}(t);\ \varepsilon_0 D_0^{(1)} = \varepsilon_1 D_1^{(1)} + g_0(t);\ \frac{\partial U_0^{(1)}}{\partial z} = \frac{\partial U_1^{(1)}}{\partial z} \text{ on } L \qquad (4.2)$$

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Plane problems in ...

$$\left.\frac{\partial U^{(2)}}{\partial \bar{z}}\right|_{L_1} = f^{(2)}(t);\ \varepsilon_0^2 D_0^{(2)} = \varepsilon_1^2 D_1^{(2)};\ \varepsilon_0 \frac{\partial U_0^{(2)}}{\partial \bar{z}} = \varepsilon_1 \frac{\partial U_1^{(2)}}{\partial \bar{z}} \text{ on } L \quad (4.3)$$

The case is considered when a circular hole of radius R is filled by a ring of internal radius R_1; the internal contour of the ring is stress free and the stressed state at infinity is homogeneous. Formulas for the second-order potentials are derived. These formulas can be used for determining the second-order potential for the following problems: a) Plate with circular hole into which a washer is pressed; b) hole with annealed washer or ring. Case a) is considered in more detail. There are 1 figure and 4 references: 2 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publications read as follows: J. E. Adkins, A. E. Green, G. G. Nicholas, Two-dimensional theory of elasticity for finite deformations, Philosophical transactions, ser. A, 247, 1954; J. E. Adkins, A. E. Green, Plane problems in second-order elasticity

Card 5/6

32559
S/198/61/007/006/001/008
D299/D301

Plane problems in ...

theory, Proceedings of Royal Society, ser. A, N 1219, v. 239, 1957.

ASSOCIATIONS: Institut mekhaniky AN URSR (Institute of Mechanics of the AS UkrRSR); Konstruktors'ke byuro (Design Bureau), L'viv

SUBMITTED: June 30, 1961

Card 6/6

L 08717-67 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k) IJP(c) WW/EM
ACC NR: AP6032394 SOURCE CODE: UR/0198/66/002/009/0071/0078

AUTHOR: Koyfman, Yu. I. (L'vov); Langleyben, A. Sh. (L'vov)

ORG: L'vov State University (L'vovskiy gosudarstvennyy universitet)

TITLE: Large elastic deformations of a two-layer cylinder

SOURCE: Prikladnaya mekhanika, v. 2, no. 9, 1966, 71-78

TOPIC TAGS: elastic deformation, stress analysis, nonlinear material, compressible material, physical nonlinearity, geometric nonlinearity, nonlinear elasticity ~~theory~~, cylindric shell structure, composite material

ABSTRACT: The stresses and strains in a composite hollow cylinder consisting of two cylinders of different materials soldered together over their contact surface are analyzed. The outer layer of the cylinder is made of a nonlinearly (or linearly) elastic material, the inner layer—of nonlinearly elastic material of lower rigidity; both materials are compressible. Continuous loads act on the inner and outer surfaces of the cylinder in the final (deformed) state. The elastic equilibrium of this cylinder is discussed by using the relationships of the plane, physically and geometrically nonlinear theory of elasticity. The resolving system of equations of this theory, describing the plane deformation and state of stress, is integrated

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L 08717-67
ACC NR: AP6032394

by expanding the stress and displacement functions in powers of a small parameter. The following versions of the boundary problems concerning the final and initial (nondeformed) states are discussed for a cylinder under uniform normal pressures on both surfaces: A) The boundary and loading conditions are given for the final state; B) The boundary and loading conditions are given for the initial state; and C) the load acting in the final state is applied to the initial contour. Formulas for determining the stress components and the radial displacements are derived for all three cases, and these formulas are deduced for a non-composite (one-layer) cylinder. The behavior of a two-layer cylinder with the outer layer made of linearly elastic material and the inner layer from an incompressible material with an energy function in the Mooney form, is investigated as an example, assuming that the radii of the cylinders are given for the initial state. The dependence (determined by means of linear and nonlinear theories) of tangential and normal stresses, and of normal displacements on the elastic constants of both component layers is shown in diagrams, and the nonlinearity effect in the stress and strain distribution is discussed. Orig. art. has: 4 figures and 14 formulas.

SUB CODE: 20/ SUBM DATE: 02Feb66/ ORIG REF: 003/

Card 2/2 nst

SAVIN, G.N.; KOYFMAN, Yu.I.

Nonlinear effects in problems of stress concentration at the boundaries with reinforced edges. Prikl. mekh. 1 no.9:1-13 '65.
(MIRA 18:10)

1. Konstruktorskoye byuro Instituta mekhaniki AN UkrSSR.

KOYFMAN, Yu.I. [Koifman, IU.I.]

Nonlinear second-order effects for a plate with a hole whose edge is soldered to an absolutely rigid insert. Dop. AN URSR no.3:344-348 '64. (MIRA 17:5)

1. Predstavleno akademikom AN UkrSSR G.N. Savinym [Savin, H.M.].

L 4115-66 EWT(d)/EWT(m)/EWP(w) EM

ACC NR: AP5024933 SOURCE CODE: UR/0198/65/001/009/0001/0013

AUTHOR: Savin, G. N. (Kiev); Koyfman, Yu. I. (L'vov)

ORG: Institute of Mechanics, Academy of Sciences, UkrSSR. Design Bureau (Institut mekhaniki AN UkrSSR. Konstruktorskoye byuro)

TITLE: Nonlinear effects in problems on stress concentration around holes with reinforced edges

SOURCE: Prikladnaya mekhanika, v. 1, no. 9, 1965, 1-13

TOPIC TAGS: stress concentration, nonlinear elasticity theory, plane elasticity theory, plane stress, plane strain, hole weakened plate, hole edge reinforcement

ABSTRACT: Problems on concentration of stresses around holes with reinforced edges are discussed within the scope of the physically and geometrically nonlinear plane theory of elasticity. The stress-strain relationships are derived by integrating the resolving systems of equations which describe the states of two-dimensional stress and strain in solids. Boundary problems can be solved by means of these relationships in cases when the body contours are given, either in a strained or non-strained state. The following problems of stress concentration around holes with reinforced edges in plates are solved by considering only two approximations: 1) a wide ring of a different material is soldered to the edge of a circular hole; 2) the edge of a hole of arbitrary shape is reinforced by a perfectly rigid ring; and 3) the edge of a circular

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L 4115-66

ACC NR: AP5024933

hole is reinforced by a thin, linearly elastic ring. The stress distribution and the coefficient of stress concentration K are determined for each problem, and the effect of the rigidity of the reinforcing ring is discussed. It is concluded that by varying the rigidity ratio between the reinforcing ring and plate, the stress concentration can be reduced by using a more elastic and flexible reinforcing element; therefore in problem (3), the stress concentration is almost eliminated (K = 1), whereas in problem (2) the coefficient K assumes considerable values. The association of the first and second approximations with the physical and geometric nonlinearities is briefly discussed. The authors point out the need to determine the third approximation for some simplest problems of stress concentration around holes with reinforced edges in order to be completely able to establish and evaluate the role of physical nonlinearity in these problems. Orig. art. has: 2 tables and 42 formulas. [VK]

SUB CODE: AS/ SUBM DATE: 23Apr65/ ORIG REF: 006/ OTH REF: 002/ ATD PRESS: 4121

Card 2/2

KOYFMAN, Z.D.; NARINSKIY, L.Z.

Novocaine treatment of eczema and some other allergic skin diseases. Sbor.nauch.rab.Bel.nauch.-issl.kozno-ven.inst. 6:372-374 '59. (MIRA 13:11)

(NOVOCAINE)
(SKIN--DISEASES)

KOYICH, M.

YUGOSLAVIA/Weeds and Their Control. N

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20624.

Author : M. Koyich
Inst : The Botanical Institute of Belgrade University.
Title : Contribution to the Characterization of Vegetative Reproduction in the Canada Thistle (Cirsium arvense Scop.) (K kharakteristike vegetativnogo razmnozheniya osota rozobogo (Cirsium arvense Scop.).

Orig Pub: Zb. radova Pol'oprivrednog fak. Un-t Beogradu, 1956, 4, No 1, 57-66.

Abstract: Research conducted at the Botanical Institute of Belgrade University has established that the regeneration capacity in severed side roots of thistle is considerably higher than in the main root. The severed roots have two maximum periods of vegetative regeneration, namely in spring

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YUGOSLAVIA/Weeds and Their Control.

N

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20624.

and fall; root growth is diminished during the summer months. The depth and time of severing the root system plays considerable role in regeneration and the appearance of shoots above ground. Severing in May acts very much more favorably for regeneration than in July.

Card : 2/2

Koykov, S. D.

KOYKOV, S.D., inzh. (Stalinsk).

Experiments in improving the quality of rails. Put' i put. khoz. no.1: 23 Ja '58. (MIRA 11:1)

(Railroads--Rails)

KOYKOV, S.N.

SUBJECT USSR / PHYSICS
AUTHOR KOJKOV,S.N., ZIKIN,A.N. CARD 1 / 2 PA - 1584
TITLE The Electric Resistance of Thin Layers of Aluminium Oxide.
PERIODICAL Žurn.techn.fis,26,fasc.10, 2248-2253 (1956)
Issued: 11 / 1956

The samples were investigated in the vacuum within the temperature interval of from 300 to 2000° K by means of parallel current.
Investigation method and apparatus: The aluminium-oxide powder which was mixed with an organic binding agent was applied either on to a tungsten wire of 100 micron thickness or on to a molybdenum band of 1 mm width and 30 micron thickness. The sample was introduced into a piston with 10^{-4} to 10^{-5} torr and thermal treatment (annealing) is described. In these tests the core always served as an electrode, the other electrode was of metal. During annealing the electrodes were closely connected with the surface of the aluminium oxide layer. The average value obtained on the basis of from 10 to 200 measurements was in all cases taken as breakdown voltage.
Measuring results: The dependence of breakdown voltage on polarity is obviously due to the insufficient contact of the outer electrode with the surface of the aluminium oxide layer. The electrodes, which were fixed to the samples before annealing, have sufficiently close contact after heat treatment, which, however, can again be destroyed by sharp changes of temperature in the course of measuring. In electrodes with sufficiently close contact breakdown voltage

Žurn.techn.fis,26,fasc.10,2248-2253 (1956) CARD 2 / 2 PA - 1584

in the temperature domain of from 300 to 1500° K increases nearly proportionally to the thickness of the layer. At higher temperatures this dependence is linear but not directly proportional. In the case of a not close contact breakdown voltage within the entire temperature range of from 300 to 2000° K is not proportional to the thickness of the layer. The breakdown voltage of an aluminium oxide layer at close contact of the outer electrode with the surface layer is nearly equal to the breakdown voltage of layers of air of corresponding thickness. At 1500° K breakdown voltage does not depend on the degree of the vacuum in the pressure interval of from 10^{-4} to 10^{-6} torr. These and other facts indicate the existence of pores in the layers of aluminium oxide. The pores pass right through and comprise up to 30% of the entire volume of the layer. The temperature dependence of breakdown voltage, namely $\lg U_D = f(1/T)$ can be represented in form of a broken straight line. In all samples the break is to be found at a temperature of the order of from 1300 to 1400° K. Below 1300° K breakdown voltage depends only little on temperature.
There follows a discussion of results.

INSTITUTION: LPI (= Leningrad Pedagogical Institute) Leningrad.

KOYKOV, S.N.; TSIKIN, A.N.

Basic regularities in the aging of alundum coverings. Mauch.-tekh.inform.biul.LPI no.5:78-85 '58. (MIRA 12:5)
(Cathodes)

AUTHORS: Koykov, S. N., Tsikin, A. N. 48-22-5-19/22

TITLE: The Breakdown of Thin Alundum-Layers (Proboy tonkikh sloyev alunda)(Data From the VIII All Union Conference on Cathode Electronics, Leningrad, October 17-24, 1957)(Materialy VIII Vsesoyuznogo soveshchaniya po katodnoy elektronike, Leningrad, 17-24 oktyabrya 1957 g.)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1958 Vol. 22, Nr 5, pp. 622-627 (USSR)

ABSTRACT: Thin layers of sintered aluminum (alundum) are used for insulating coatings of vacuum-tubes to avoid a short-circuit between the cathode core and the heater filament. In the operation of radio valves alundum coatings are used under rather hard conditions : at 1400 ÷ 1700°K and a relatively high electric field strength. The better part of spoilage results from a breakdown of these coatings. A study of the relevant regularities is essential for the production of more durable radio valves. Conclusions: 1. At temperatures of from 1400 - 1500°K the breakdown of alundum is due to heat, with direct current as well as with pulses. 2. Below 1400°K no processes characteristic for the

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breakdown due to heat have been observed; It seems that the porous dielectric had been electrically disrupted in this case. 3. The relation of the disruptive voltage to the polarity of the electrodes is due to an unreliable (leaky) contact of the outer electrode with the surface of the alundum coating. 4. The aging of alundum coatings is obviously subordinated to the rules which have been established for the aging of organic dielectrics. A. M. Shemayev, B. I. Vasserman, K. G. Kondrashova, S. A. Obolenskiy, and the first of the authors joined in the discussion. There are 8 figures and 4 references, 4 of which are Soviet.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Polytechnical Institute imeni M. I. Kalinin, Leningrad)

1. Sintered aluminum--Applications 2. Sintered aluminum coatings --Failure 3. Sintered aluminum coatings--Properties 4. Electron tubes---Materials

KOYKOV, S. N., Candidate of Phys-Math Sci (diss) -- "A study of the laws of the breakdown of thin alundum coverings". Leningrad, 1959. 9 pp (Min Higher Educ USSR, Leningrad,Polytech Inst im M. I. Kalinin), 150 copies (KL, No 21, 1959, 111)

KOYKOV, S.N.; TSIKIN, A.N.

Basic regularities in the aging of alundum coatings. Fiz. tver. tela 1 no.3:456-461 Mr '59. (MIRA 12:5)

1. Leningradskiy politekhnicheskiy institut im. M.I. Kalinina.
(Alundum--Testing)

KOYKOV, S.N.; TSIKIN, A.N.

Solving the problem of the thermal breakdown of dielectrics under nonsymmetric boundary conditions. Fiz.tver.tela 1 no.5:789-797 My '59. (MIRA 12:4)

1. Leningradskiy politekhnicheskiy institut im. M.I. Kalinina.
(Dielectrics)

Koykov, S.N.

PHASE I BOOK EXPLOITATION SOV/4379

Vsesoyuznaya konferentsiya po fizike dielektrikov. 2d, 1958

Fizika dielektrikov; trudy vtoroy vsesoyuznoy konferentsii (Physics of Dielectrics, Transactions of the 2d All-Union Conference on the Physics of Dielectrics) Moscow, Izd-vo AN SSSR, 1960. 532 p. Errata slip inserted. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Fizicheskiy institut imeni P.N. Lebedeva.

Ed. of Publishing House: Ye.L. Starokadomskaya; Tech. Ed.: I.N. Dorokhina. Editorial Board: (Resp. Ed.) G.I. Skanavi, Doctor of Physics and Mathematics (Deceased), and K.V. Filippova, Candidate of Physics and Mathematics.

PURPOSE: This collection of reports is intended for scientists investigating the physics of dielectrics.

COVERAGE: The Second All-Union Conference on the Physics of Dielectrics held in Moscow at the Fizicheskiy institut imeni P.N. Lebedeva (Physics Institute imeni P.N. Lebedev) in November 1958 was attended by representatives of the principal scientific centers of the USSR and of several other countries. This collection contains most of the reports presented at the conference and summaries of the discussions which followed. The reports in this collection deal with dielectric properties, losses, and polarization, and with specific inductive capacitance of various crystals, chemical compounds, and ceramics. Photo-electrets, ferroelectric crystals, and various radiation and irradiation effects on dielectrics are investigated. The volume contains a list of other papers presented at the conference dealing with polarization, losses, and breakdowns of dielectrics, which were published in the journal Izvestiya AN SSSR, seriya fizicheskaya, No. 1 and 2, 1960. No personalities are mentioned. References accompany each report.

15.2640

S/196/61/000/010/007/037
E194/E155

AUTHORS: Koykov, S.N., Kunin, V.Ya., and Tsikin, A.N.

TITLE: Empirical relationships characterising changes in the electrical conductivity of rutile ceramics during ageing and regeneration

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.10, 1961, 19, abstract 10B 85. (Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, no.9, 1960, 114-118)

TEXT: Rutile ceramic is known to age in an electrical field at temperatures above 150 °C. Ageing causes increase in the specific conductivity of the ceramics with time. After removal of the electric field or change in the polarity of the applied voltage, regeneration of the rutile ceramic occurs: the resistivity increases first rapidly and later slowly. Formulae are proposed to describe change of conductivity with time, expressing the conductivity as the sum or product of exponential functions and a constant term. 4 literature references.
[Abstractor's note: Complete translation.]

Card 1/1

9.2400 (1001, 1159, 1331)

S/181/60/002/012/001/018
B006/B063

AUTHORS: Koykov, S. N. and Tsikin, A. N.

TITLE: Solution of the Problem of Thermal Breakdown of Heterogeneous Dielectrics

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 12, pp. 2989-2997

TEXT: When calculating the puncture voltage of inhomogeneous dielectrics according to the theory of thermal breakdown, difficulties are encountered in the case of a constant current if the field strength in the dielectric is proportional to the resistivity of the various parts. The present article, a theoretical study of thermal breakdown on a dielectric plate, in which resistivity ϱ is a function of the temperature, T, and the Z coordinate, is intended as a contribution to the solution of this problem. This function is given by $\varrho = \varrho_{o\beta} f(\beta Z/h)\exp(-\alpha T)$, where $\varrho_{o\beta}$ is a constant coefficient. The boundary conditions are symmetric. The problem consists in solving the differential equation for heat conduction, which takes the

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Solution of the Problem of Thermal Breakdown of Heterogeneous Dielectrics

S/181/60/002/012/001/019
B006/B063

form: $d^2x/dU^2+De^{-x}f(\beta U) = 0$, $-dx/dU\big|_0 = 0$; $-dx/dU\big|_1 = Cx_1 = \xi$; $(U=Z/h)$. The equation is solved for a) $f(\beta_a U) = 1+\beta_a U$ and b) $f(\beta_b U) = e^{\beta_b U}$. Explicit expressions for the breakdown voltage are derived for a) and b). Practical examples of the application of the resulting formulas are computed, and the results are compared with those obtained from Fok's theory. Deviations from the results of Fok's theory can partly be explained by the fact that ϱ_0 was assumed to be independent of E, which may lead to great errors at high values of E. The authors thank Ye. V. Kuvshinskiy and B. P. Berkovskiy for reading the manuscript and critical remarks, and also Yu. N. Malyshev for discussions. There are 4 figures and 2 Soviet references.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: April 4, 1960

Card 2/2

13,2960 (2202, 1001, 1159)

S/108/60/015/011/011/012
B019/B063

AUTHORS: Koykov, S. N. and Tsikin, A. N.

TITLE: A Method of Quick Determination of the Service Life of Radio Parts by Steady Increase of Voltage

PERIODICAL: Radiotekhnika, 1960, Vol. 15, No. 11, pp. 73-76

TEXT: The present paper deals with Kimmel's method of testing radio parts (Ref. 3). Kimmel' suggested a steady increase of the test voltage at a constant rate c for the testing of paper capacitors. On the basis of these results, the authors calculate the service life of these capacitors at a constant voltage U_2 from formula (1):

$$\tau_2 = \int_0^t (ct/U_2)^K dt = (c/U_2)^K t^{K+1}/(K+1)$$

Kimmel' derived this formula from empirical relations. The authors of the present paper disagree with the determination of the service life of paper capacitors from formula (1). They demonstrate that (1) may be derived

85468

A Method of Quick Determination of the Service Life of Radio Parts by Steady Increase of Voltage

S/108/60/015/011/011/012
B019/B063

from the theory of thermal aging whereas the service life of a paper capacitor depends on aging in an electric field. Proceeding from this results, the authors discuss the proper determination of the service life of radio parts with a steady increase of the test voltage. It is shown that the service life of a paper capacitor can be calculated from (1) only if (10): $\Phi\left[P_{cr}\left(\int\right)\right] = \Phi\left[P_{cr}\left(\int_m\right)\right] = \text{const}$ is valid. Here, P_{cr} is a critical value of P, and $\int_m$ is a symbolical denotation of the time-variable parameters characterizing the test conditions (increase of the test voltage). It is finally noted that the adequate conditions for the testing of radio parts with an increase of the test voltage can be found only by a thorough examination of the aging rule as a function of voltage and time. There are 5 references: 3 Soviet, 1 German.

SUBMITTED: May 16, 1960

Card 2/2

KOYKOV, S.N.; KUNIN, V. Ya.; TSIKIN, A.N.

Calculating changes in the concentration of defects in rutile ceramics during aging and regeneration. Fiz. tver. tela 3 no.2:651-657 F '61. (MIRA 14:6)

1. Leningradskiy politekhnicheskiy institut im. M. L. Kalinina
(Rutile)

KOYKOV, S.N.; THIKIN, A.N.

Solution of the problem of thermal breakdown of inhomogeneous dielectrics with asymmetrical boundary conditions. Fiz. tver. tela 3 no.9:2553-2563 S '61. (MIRA 14:9)

1. Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina.

(Dielectrics)

S/181/62/004/004/040/042
B102/B104

AUTHORS: Koykov, S. N., Kunin, V. Ya., and Tsikin, A. N.

TITLE: Analysis of a hypothesis on electrical aging of rutile ceramics

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 1067-1068

TEXT: Electrical aging and regeneration can be attributed to changes in the defect concentration of the TiO_2 lattice. A. F. Ioffe (Fizika kristallov, 1929) has proposed a mechanism of an increase in defect concentration which is analyzed. The defects are assumed to be displaced within the monocrystallites forming the ceramic or within the domains forming the crystal. The theoretical considerations are carried out for a laminar dielectric consisting of equal layers. It can be shown that the application of an electrical field causes an increase in defect concentration. A numerical estimate, however, yields a senseless result: under otherwise reasonable assumptions the defect concentration would increase by a factor of 10^{32}. If the change in defect concentrations

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were attributed to processes similar to those occurring in alkali-halide crystal coloration in an electrical field (Heiland, Zeitschr. f. Phys. 128, 144,1950) better results might be obtained.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: November 4, 1961 (initially), January 15, 1962 (after revision)

Card 2/2

KOYKOV, S. N.; KUNIN, V. Ya.; TSIKIN, A. N.

Analysis of a hypothesis on electrical aging of rutile ceramics. Fiz. tver. tela 4 no.4:1067-1068 Ap '62. (MIRA 15:10)

1. Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina.

(Ceramics—Electric properties)

KOYKOV, S.N.; FOMIN, V.A.; ISIKIN, A.N.

Electric aging of polytetrafluoroetylene. Izv.vys.ucheb.zav.;fiz.no.2: 31-37 '63. (MIRA 16:5)

1. Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina.
(Ethylene--Electric properties)

KOYKOV, S.N.; KUNIN, V.Ya.; TSIKIN, A.N.

Variations in the concentration of dissociated defects in the aging process of rutile ceramics. Izv.vys.ucheb.zav.;fiz.no.2:66-71 '63. (MIRA 16:5)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina.
(Rutile crystals—Defects)

BARABANOV, N.N., inzh.; KOYKOV, S.N., kand.fiziko-matematicheskikh nauk; FOMIN, V.A., inzh.; TSIKIN, A.N., kand.tekhn.nauk

Ionization aging of polymer films in a wide range of temperatures, voltages, and frequencies. Elektroteknika 34 no.12:15-19 D '63. (MIRA 17:1)

L 05714-67 EWT(1) IJP(c) GG

ACC NR: AR6010504 SOURCE CODE: UR/0196/65/000/010/B007/B007

AUTHOR: Koykov, S. N.; Tsikin, A. N.

TITLE: Generalization of the theory of thermal breakdown of solid dielectrics with consideration of the nonsymmetric conditions of cooling, heat release in the electrodes, and the variations in the specific active conductivity through the thickness of the specimen

SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 10B41

REF SOURCE: Sb. Proboy dielektrikov i poluprovodnikov. M.-L., Energiya, 1964, 277-284

TOPIC TAGS: dielectric breakdown, thermal property, dielectric material, dielectric property

ABSTRACT: A theory is developed for the thermal breakdown of solid dielectrics with ac voltage appilcable to real conditions of the operation of commercial dielectrics: a) heat release in electrodes, b) variations in the specific electrical resistance in the thickness of the specimen (the heterogeneity of the dielectric), and c) dissimilar (nonsymmetrical) conditions of cooling with respect to the electrodes. [Translation of abstract] 2 illustrations and bibliography of 8 titles. A. Petrashko

SUB CODE: 11, 09

Card 1/1

UDC: 621.315.61.015.51.001.1

L 05856-67 EWP(j)/EWT(m)/T IJP(c) RM/JXT(CZ)

ACC NR: AR6010513 SOURCE CODE: UR/0196/65/000/010/B012/B012

AUTHOR: Koykov, S. N.; Telkin, A. N.

TITLE: Variations of penetration voltage, thickness, and weight of polymer films in ionization aging

SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 10B62

REF SOURCE: Sb. Proboy dielektrikov i poluprovodnikov. M.-L., Energiya, 1964, 307-310

TOPIC TAGS: nonmetal aging, surface film, polyethylene, polystyrene, polyethylene terephthalate, polytetrafluoroethylene

ABSTRACT: The results of a study of the physicochemical changes occurring in ionization aging in films of industrial PE [polyethylene], polystyrene, polyethylene terephthalate, and polytetrafluoroethylene are expounded. For aging the films, test devices of two types were used. 1. The polymer film was placed in the air gap between two glass plates, to the outer surface of which metal electrodes were fastened. An alternating voltage was fed to the electrodes, adequate for the development of intensive ionization processes in the air gap. The entire structure was placed in a glass beaker, where the discharge products (ozone and nitric oxides) were gradually accumulated. Besides the film being tested, on which the discharges

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UDC: 621.315.616.96.015.532

acted directly, a control specimen was placed under the beaker, subjected only to the "indirect" effect of the discharges (i.e., the chemical effect of ozone and nitric oxide). 2. The polymer film was located directly between metal electrodes. The effect of discharge product alone (method 1) is inadequate for intensive change of the short-duration penetration voltage U_t and does not lead to a decrease in the thickness of the film (erosion). In the direct effect of the discharges, the basic cause of the change in U_t is the decrease in the thickness of the film due to erosion. A power dependence exists

$$dh \mid dt = -C \cdot E^m, \qquad (1)$$

($m \approx 3$) between the rate of decrease of the thickness and the average field intensity in the solid dielectric, $E = U/h_1$, calculated without consideration of the voltage drop in the ionized air gap. The dependences obtained experimentally from method 2 are

$$\lg \tau = f(\lg U), \quad \frac{U_t}{U_0} = f\left(\frac{t}{\tau}\right). \qquad (2)$$

where U_0 is the short-duration penetrating voltage before aging, τ is lifetime, and also the distributions of the specimens of films by the magnitude of U_t and τ agree with the calculation curves, which were constructed with the use of the distribution according to U_0 on the basis of the ratios derived from Eq. (1). This correspondence serves as indirect evidence that the

L 05856-67
ACC NR: AR6010613

kinetics of aging of polymer films in indirect application of metal electrodes is the same as in the gap between glass plates. [Translation of abstract] 5 illustrations and bibliography of 10 titles. [Leningrad Polytechnical Institute im. M. I. Kalinin (Leningradskiy politekhnich. in-t)] A. Petrashko

SUB CODE: 11, 20

kh

Card 3/3

ACC NR: AP5022704 SOURCE CODE: UR/0181/65/007/009/2678/2682

AUTHOR: Koykov, S. N.; Rozova, M. N.

ORG: Leningrad Polytechnical Institute im. M. I. Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: Calculating the energy of formation of a pair defect in the rutile crystal lattice

SOURCE: Fizika tverdogo tela, v. 7, no. 9, 1965, 2678-2682

TOPIC TAGS: crystal theory, crystal lattice defect, titanium dioxide, potential well, theoretic physics

ABSTRACT: A hypothesis previously proposed by Koykov et al (S. N. Koykov, V. Ya. Kunin, A. N. Tsikin, *FTT*, 3, 651, 1961) for the mechanism of aging in rutile crystals assumes that there is an increase in the concentration of pair defects consisting of a vacant site and an ion which is shifted by the electric field to one of the adjacent interstices. The authors of the present article attempt to determine the extent to which the previously proposed model accurately describes the shape of the potential well. This evaluation is made by calculating the energy of formation of a pair defect in an ideal rutile crystal lattice. A formula is derived for calculating the energy necessary for moving a titanium ion from a lattice site to an adjacent

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L 9264-66

ACC NR: AP5022704

interstice. Results of the calculations are given in graphic form. The theoretical data confirm the feasibility of the previously proposed hypothesis. However, a more precise calculation of the various parameters involved in the energy formula is needed for a rigorous computation of the quantitative characteristics of the potential barriers which limit the motion of the ion from a lattice point to an interstice. Orig. art. has: 3 figures, 2 tables, 7 formulas.

SUB CODE: 20/ SUBM DATE: 20Mar65/ ORIG REF: 004/ OTH REF: 008

GC

Card 2/2

TIMOFEYEVA, A.G., MADAYEVA, O.S., GUSAKOVA, Ye.G., KOYLKINA, N.F., MEN'SHOVA, N.I., NOVIKOVA, V.M.

Hydroxylation of progesterone to 11 α-oxyprogesterone by the use of Rhizopus nigricans [with summary in English]. Izv.AN SSSR. Ser.biol. no.6:712-718 N-D '58 (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S. Ordzhonikidze, Moskva.
(PROGESTERONE)
(HYDROXYLATION)
(FUNGI)

GAMBERG, R.M., gornyy inzh.; KOYLOV, V.G., gornyy inzh.

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L 10202-66 EWT(d)/EEC(k)-2/T/EWP(1) IJP(c) BB/GG

ACC NR: AP5028512 SOURCE CODE: UR/0286/65/000/020/0097/0097

AUTHORS: Vaynshteyn-Kovalevskiy, G. Ye.; Gorokhov, V. M.; Koynash, P. I.; Lanin, N. D. 44 44 44 44 57 B

ORG: none

TITLE: A pneumatic lever multiplication unit. Class 42, No. 175745 [announced by Experimental Construction Bureau "Teploavtomatii" (Opytno-konstruktorskoye byuro "teploavtomat"); Central Scientific Research Institute of Comprehensive Automation (Tsentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii)] 44

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 97

TOPIC TAGS: pneumatic computer, pneumatic device, positive feedback

ABSTRACT: This Author Certificate presents a pneumatic lever multiplication unit. The unit consists of two input sylphon bellows, three bars, a balance arm, a movable support, a feedback bellows, a pneumatic amplifier with a controllable nozzle, and three tuning springs. In order to multiply pneumatic signals that vary on both sides of an arbitrary zero, taking into account the sign of the output signal, the upper part of the moving support is made in the form of two bent elbows, so that the moving support can be placed above or below the turning axis of the balance arm. The bars have joints on their ends and can impart forces of both signs.

Card 1/1

UDC: 681.142-525

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